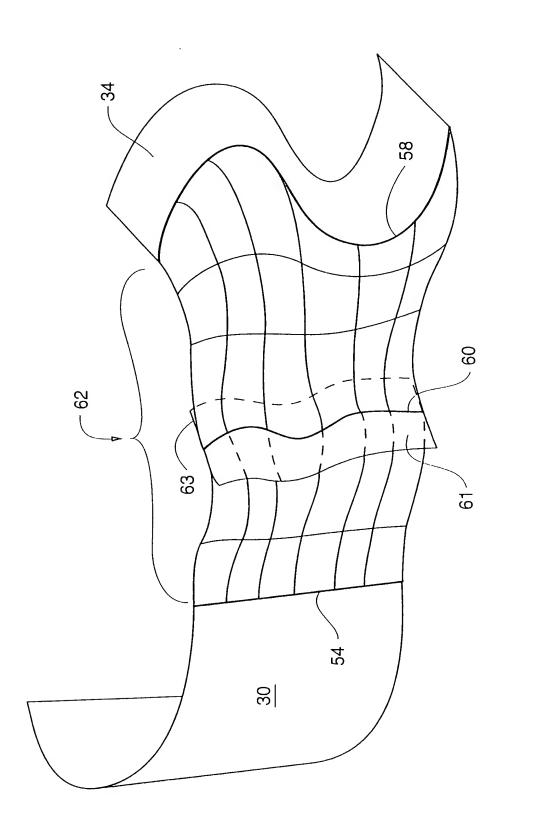
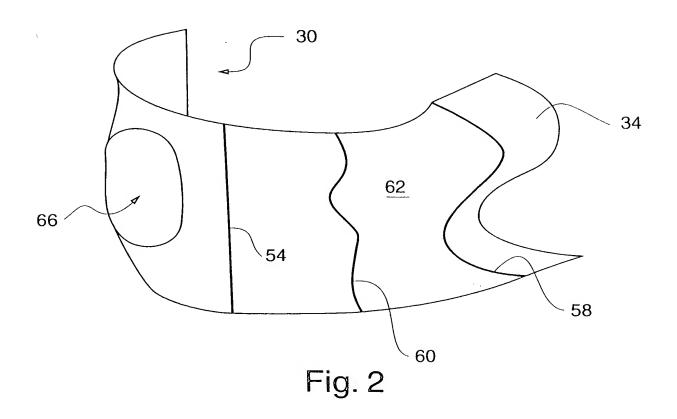
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Serial No.: Not Yet Assigned Filed: Herewith
Title: "GEOMETRIC DESIGN AND MODELING SYSTEM USING CONTROL GEOMETRY"
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Attorney: Dennis J. Dupray Telep
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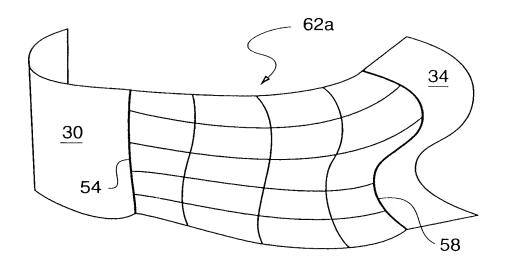
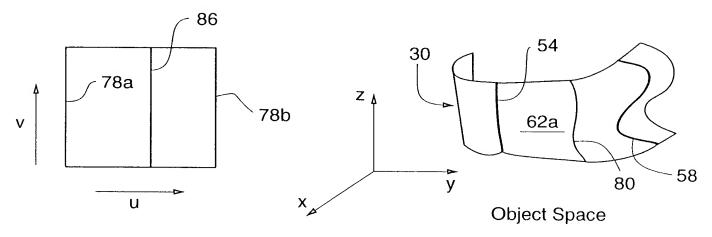


Fig. 3

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Parameter Space

Fig. 4

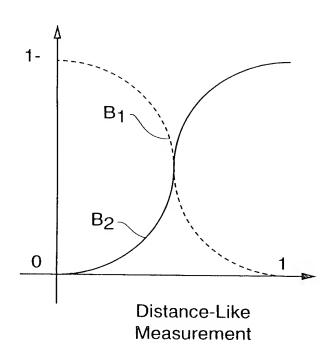


Fig. 5

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E): ROCKWOOD et al.

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Attorney: Dennis J. Dupray

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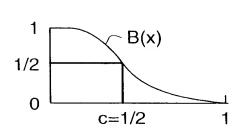


Fig. 6A

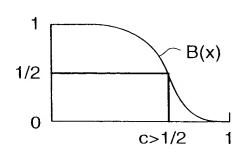


Fig. 6B

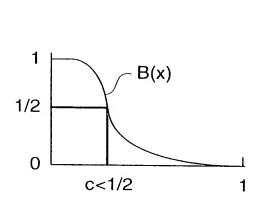


Fig. 6C

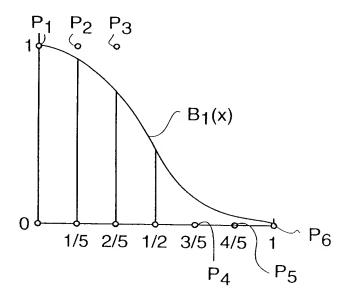
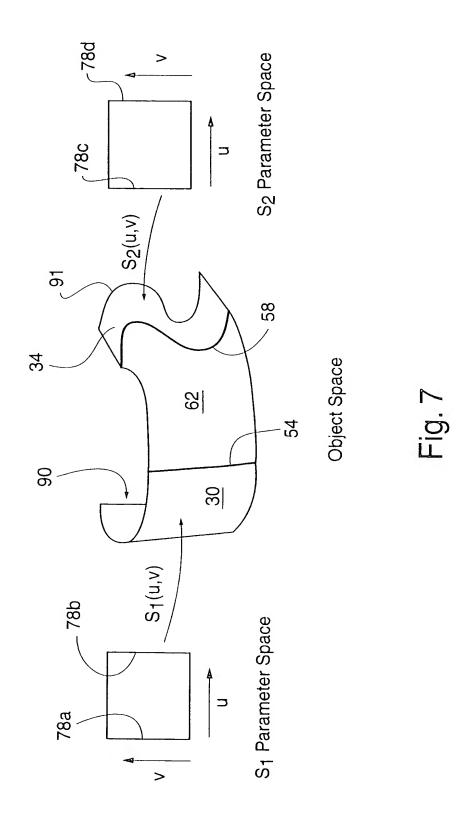


Fig. 6D

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Attorney: Dennis L Durray. Inventor(s): ROCKWOOD et al. Attorney: Dennis J. Dupray Telep Sheet 6 of 33 sheets Docket No. 3404-2-1 Telephone: 303/863-9700

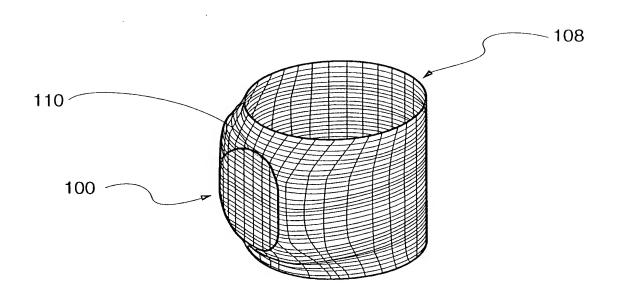


Fig. 8

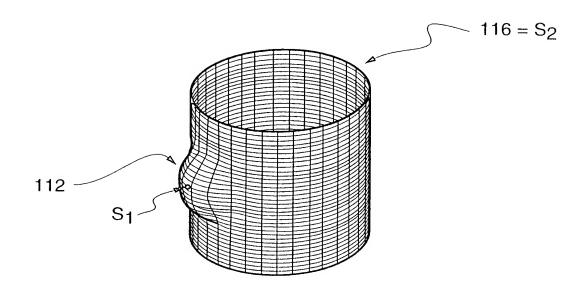


Fig. 9

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Fig. 10

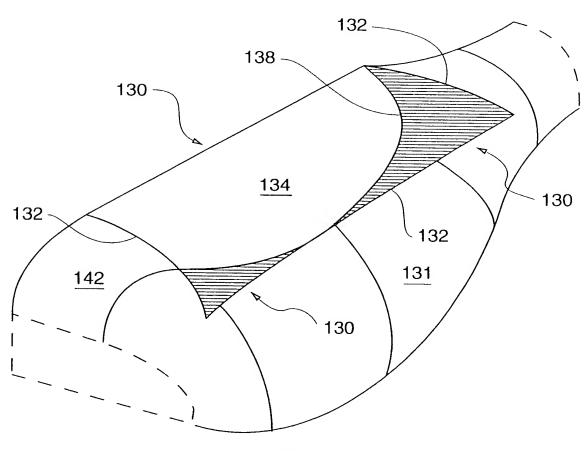


Fig. 11

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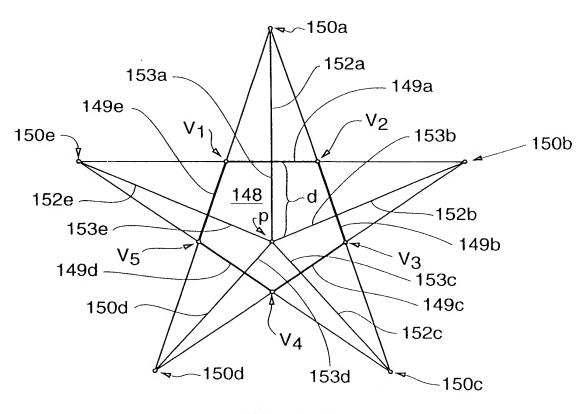


Fig. 12

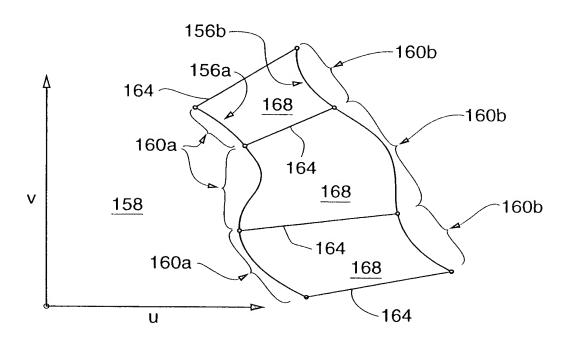


Fig. 13

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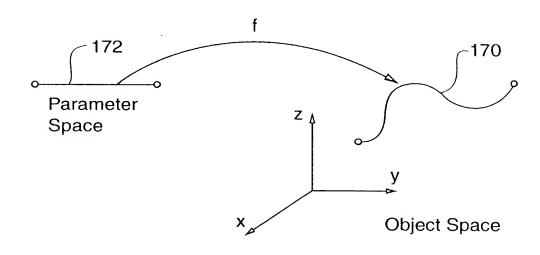
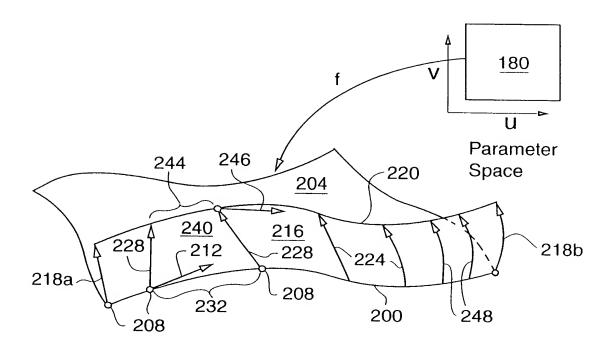


Fig. 15



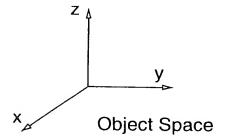


Fig. 16

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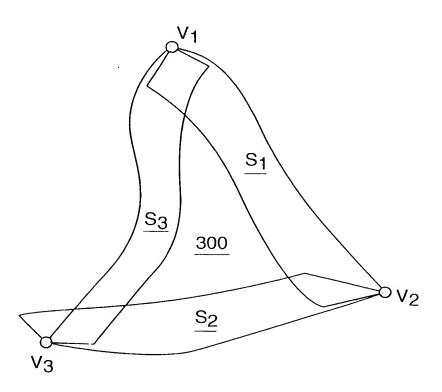
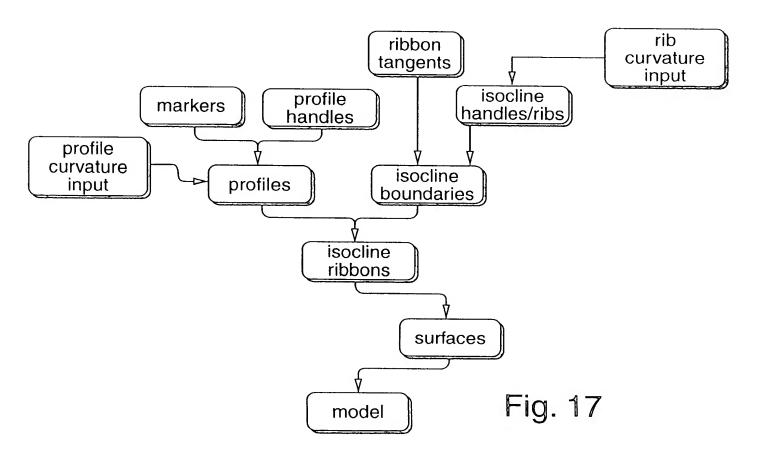


Fig. 14

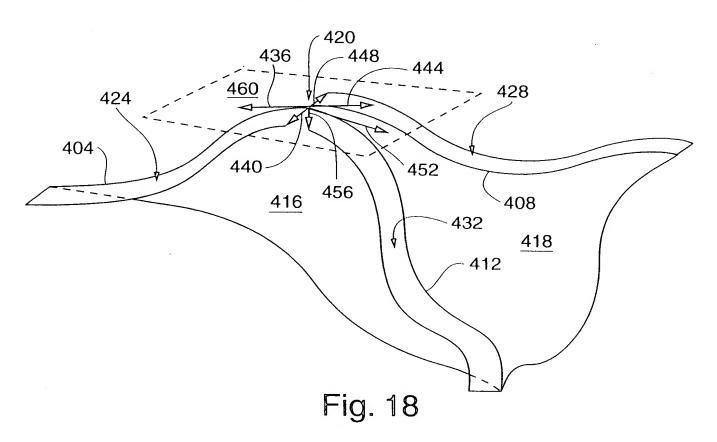


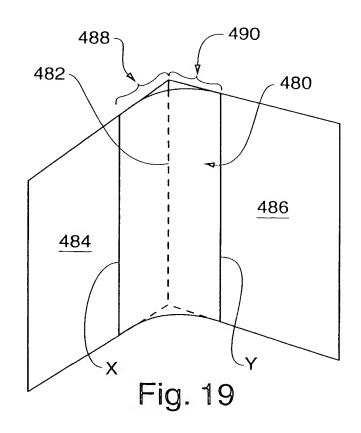
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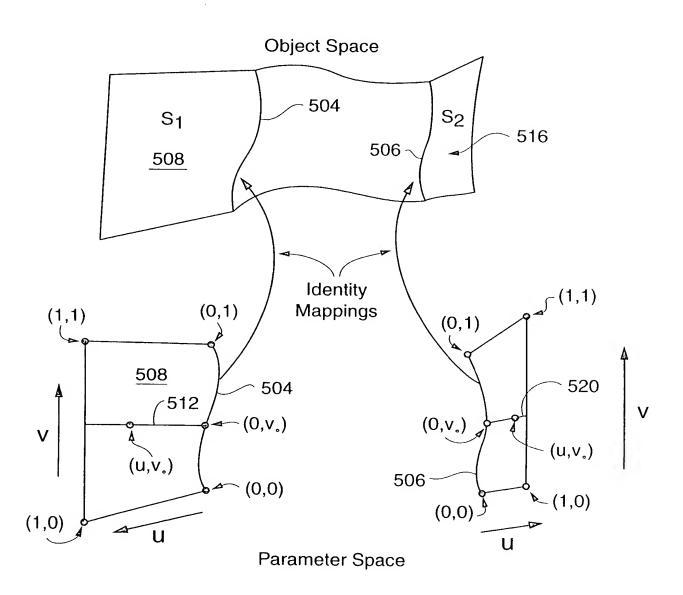


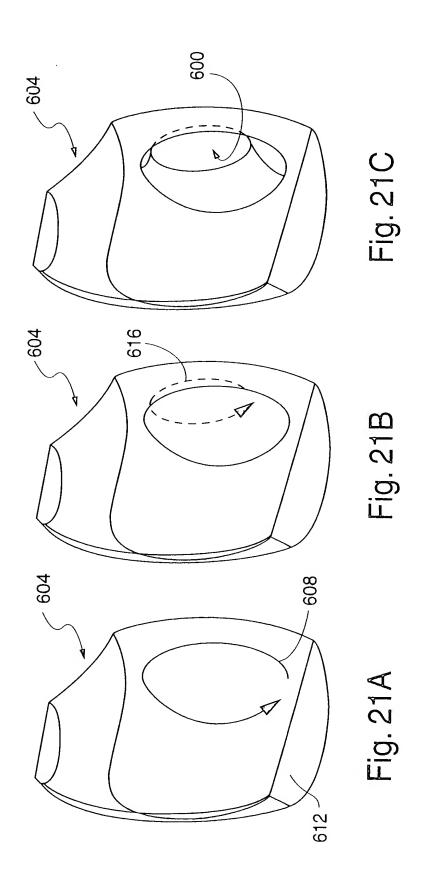
Fig. 20

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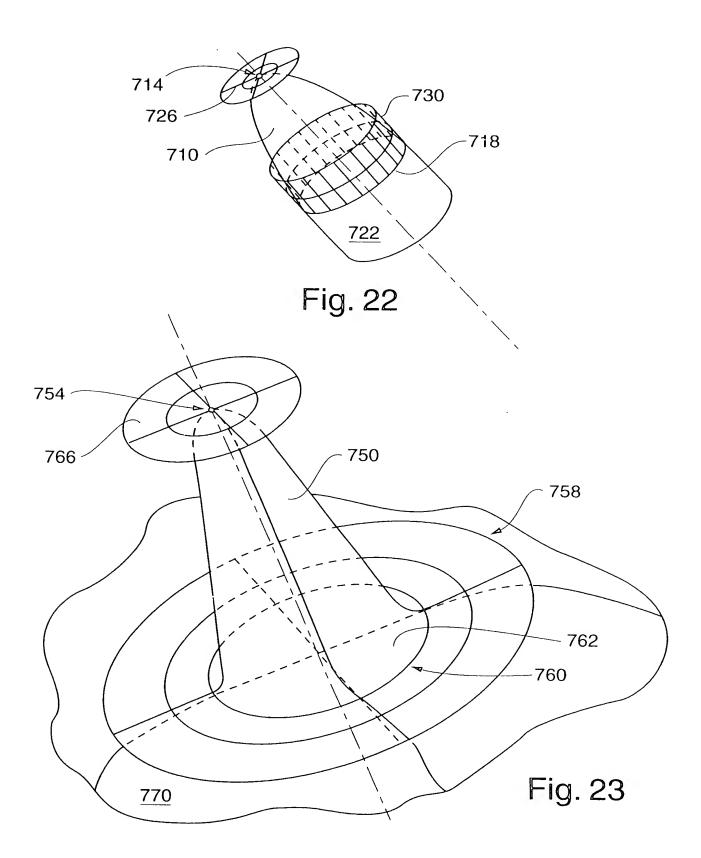
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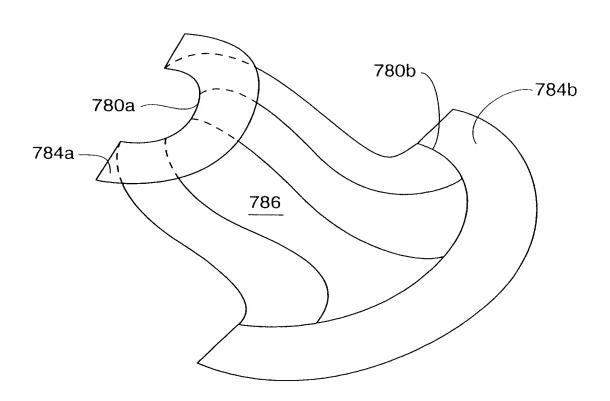
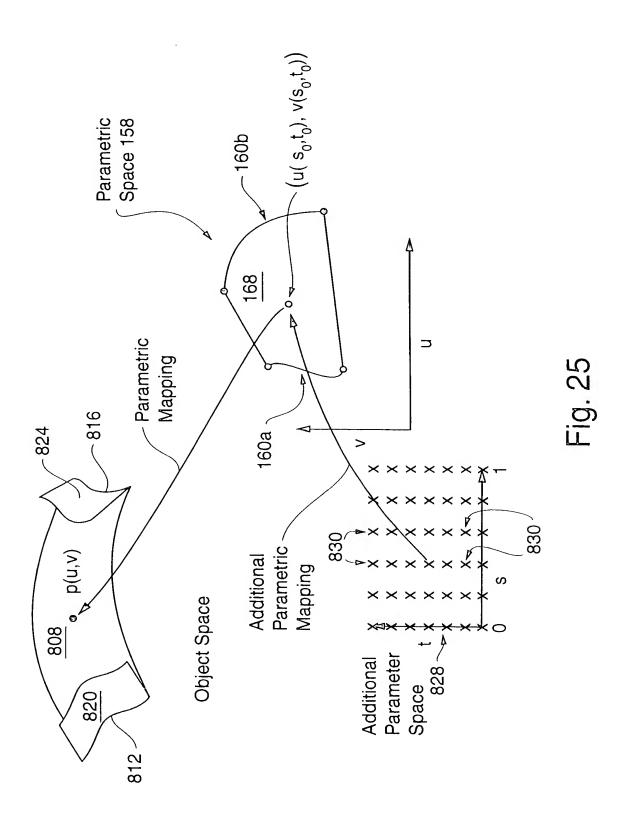


Fig. 24

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CURVE INTERPOLATION (PT1, PT2, TAN1, TAN2)



1004

FOR ANY OF THE PARAMETERS PT1, PT2, TAN1, TAN2 NOT DEFINED, PROVIDE VALUES FOR THEM AS FOLLOWS:

PT1 ← GET A FIRST POINT TO BE ON THE INTERPOLATED CURVE.

PT2 ← DETERMINE A SECOND POINT TO BE ON THE INTERPOLATING CURVE

TAN2 DETERMINE A VECTOR THAT IS TO BE THE TANGENT VECTOR AT PT2 TO THE INTERPOLATING CURVE.

B₁ DETERMINE A FIRST BLENDING FUNCTION FOR BLENDING TAN1 INTO THE INTERPOLATING CURVE SO THAT THE INTERPOLATING CURVE HAS TAN1 AS ITS DERIVATIVE VECTOR AT PT1.

1008

B₂ DETERMINE A SECOND BLENDING FUNCTION FOR BLENDING TAN2 INTO THE INTERPOLATING CURVE SO THAT THE INTERPOLATING CURVE HAS TAN2 AS ITS DERIVATIVE VECTOR AT PT2.

1012

GENERATE THE DESIRED INTERPOLATING CURVE, C, BY EXECUTING THE FOLLOWING STATEMENT FOR VALUES OF u, o \leq u \leq 1.

C(u)
$$\leftarrow$$
 B₁(D₁(u)) * $[PT1 + (1-u) * TAN1]$
+ B₂(D₂(u)) * $[PT2 + (u-1) * TAN2]$

WHERE $D_1(u) = u$ AND $D_2(u) = u$.

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RETURN C(u)

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CONSTRUCT ISOCLINE BOUNDARY **APPROXIMATION (S, PT1, PT2, C(u))**

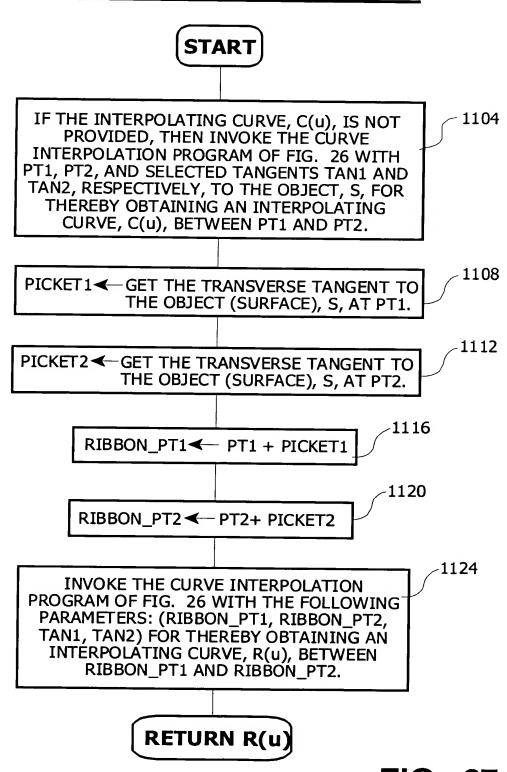


FIG. 27

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Title: "GEOMETRIC DESIGN AND MODELING SYSTEM USING

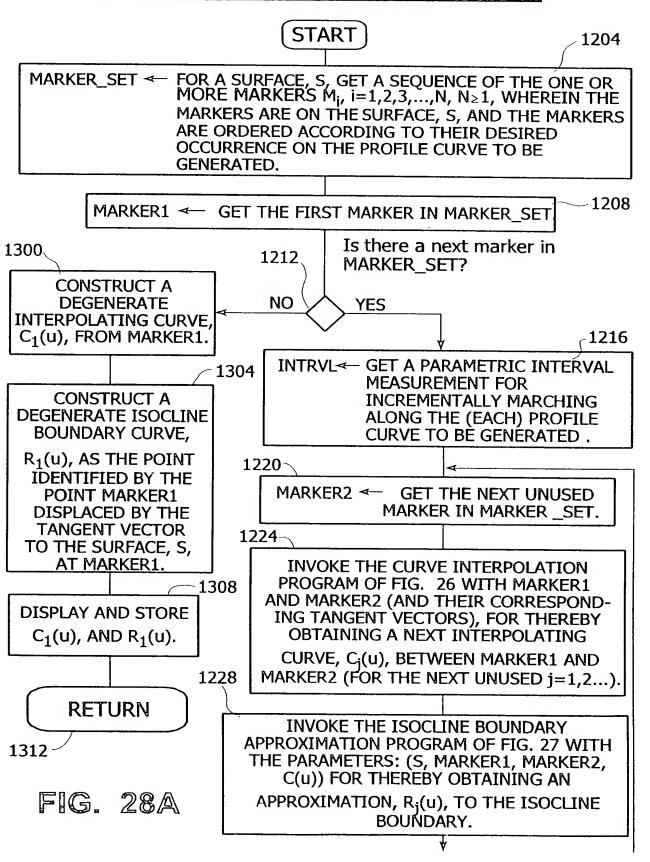
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CONSTRUCT ISOCLINE RIBBON/BOUNDARY



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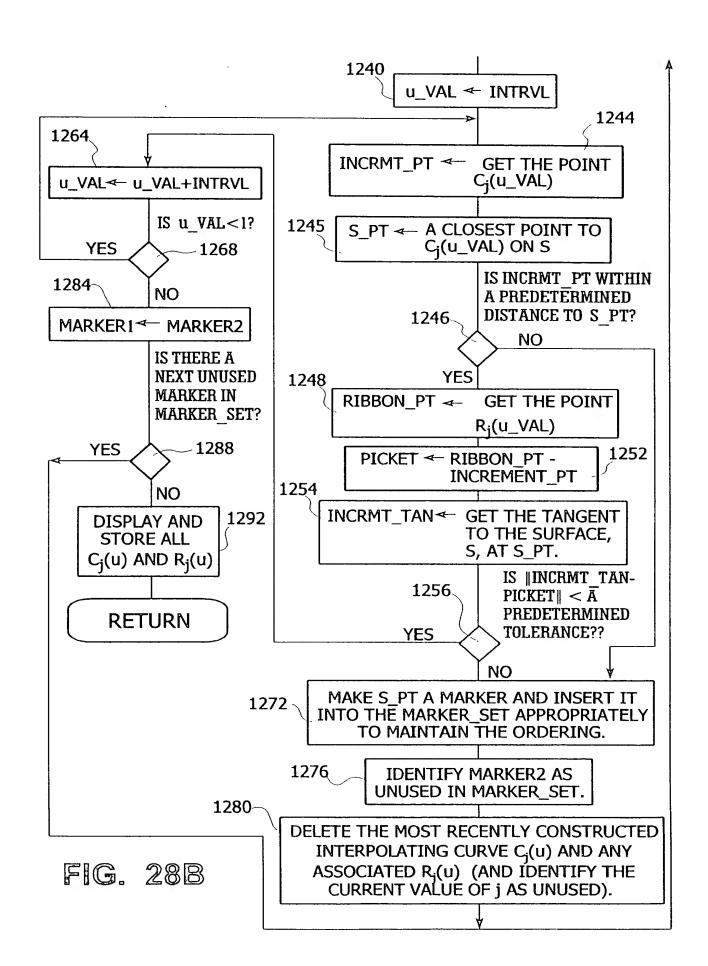
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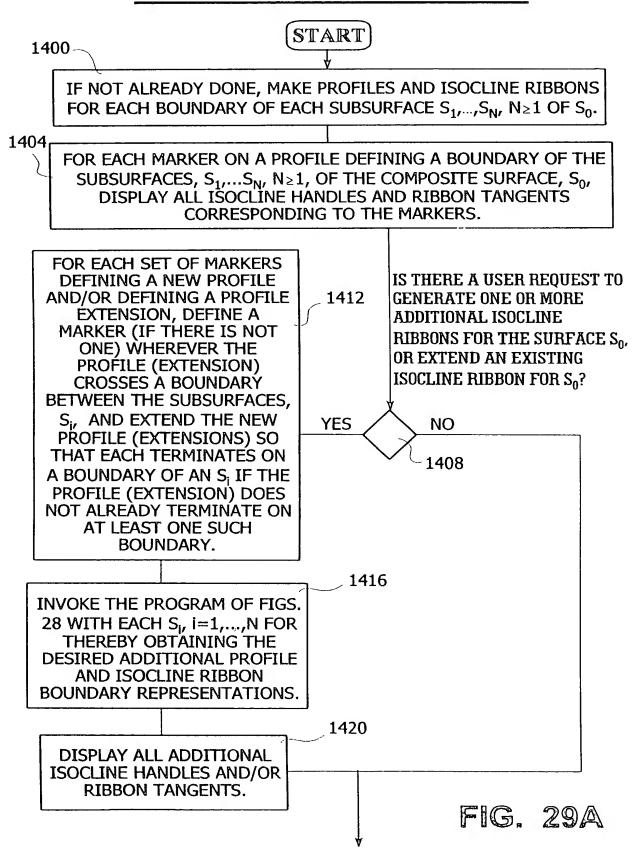
CONTROL GEOMETRY"

Attorney: Dennis J. Dupray

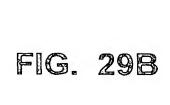
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MODIFY A COMPOSITE SURFACE(S₀)



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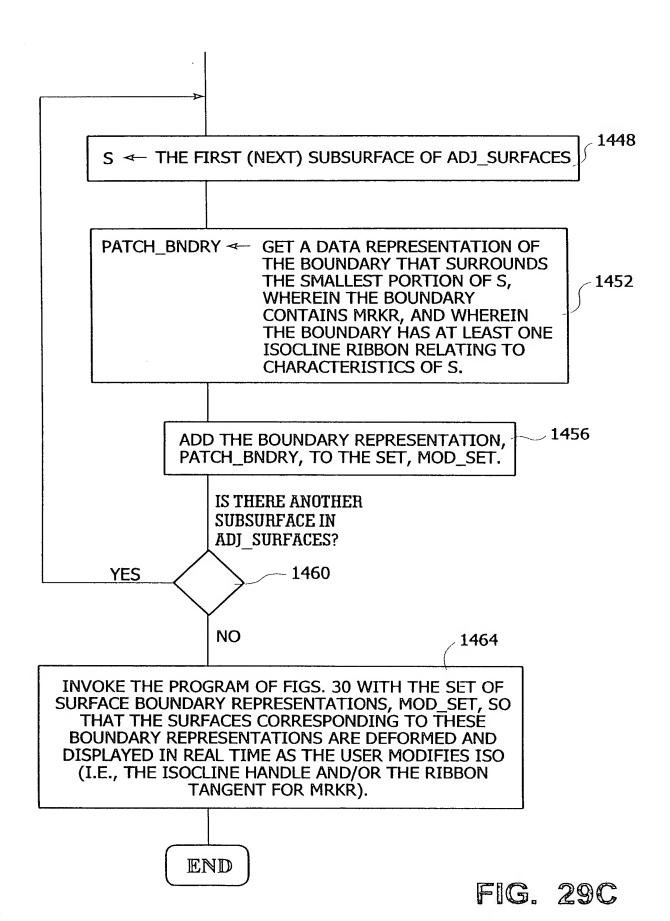
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DEFORM_SURFACES (MRKR, MOD_SET)

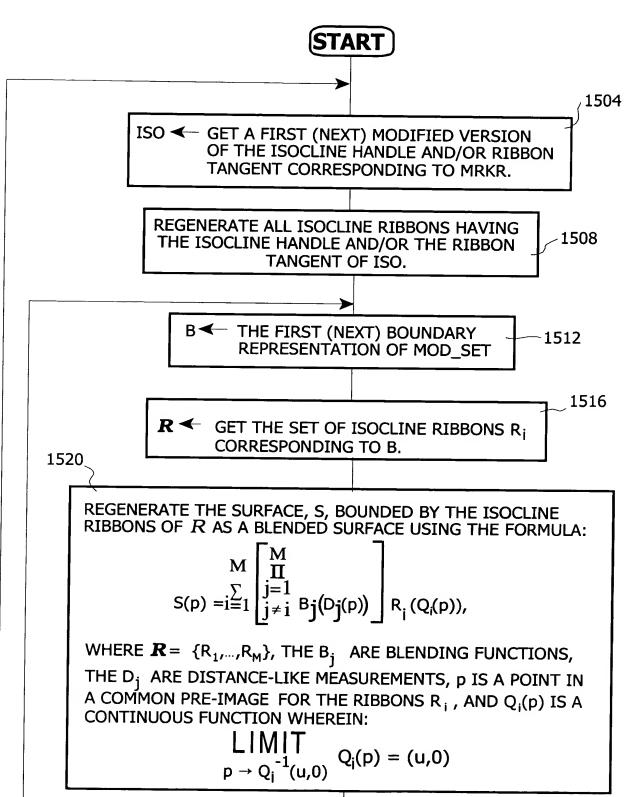


FIG. 30A

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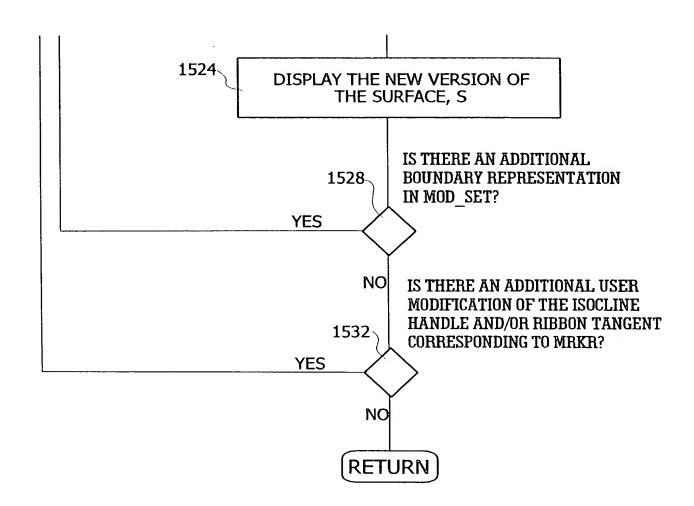


FIG. 30B

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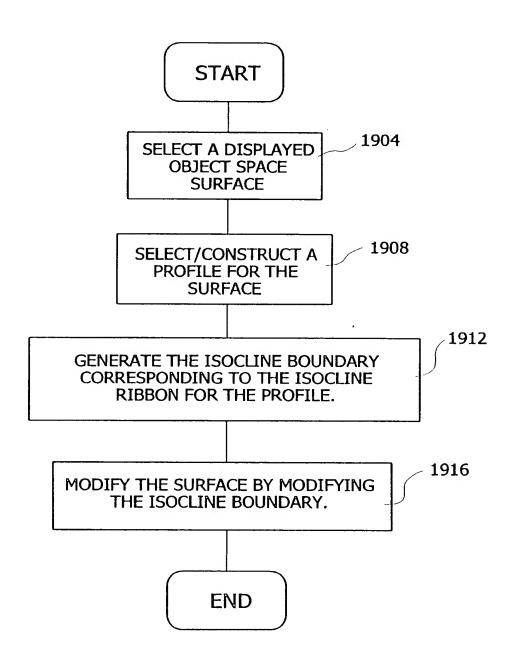


FIG. 31

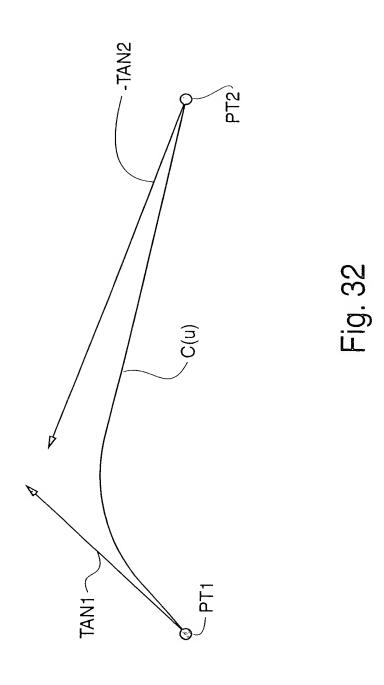
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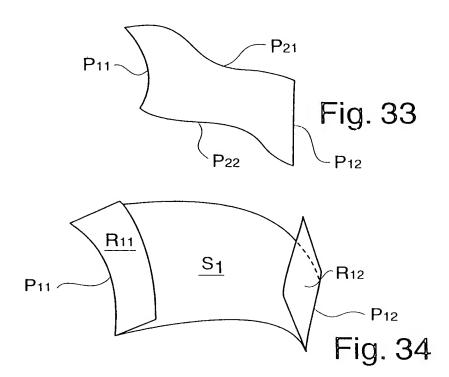
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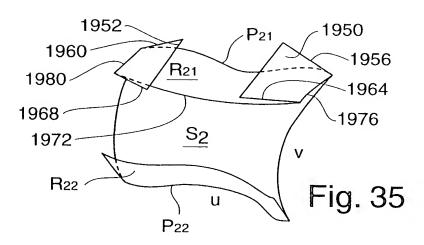


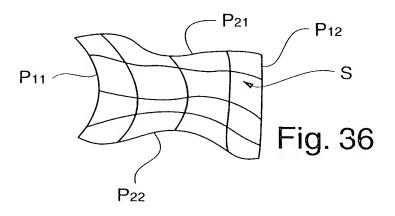
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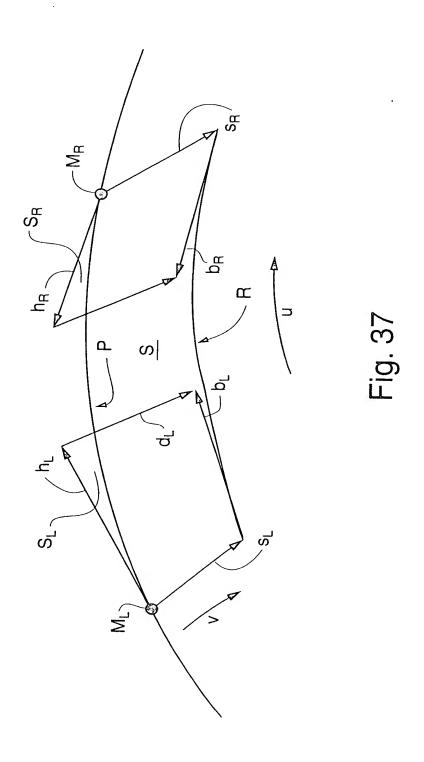






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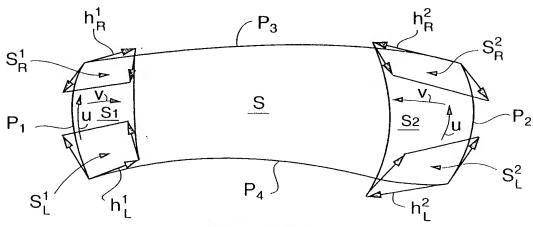
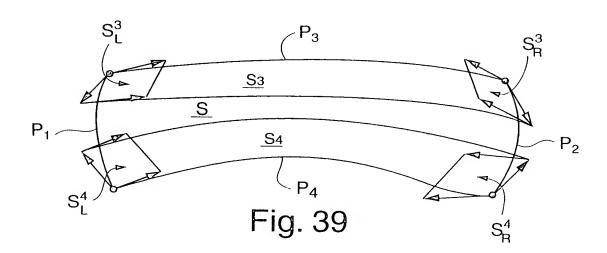


Fig. 38



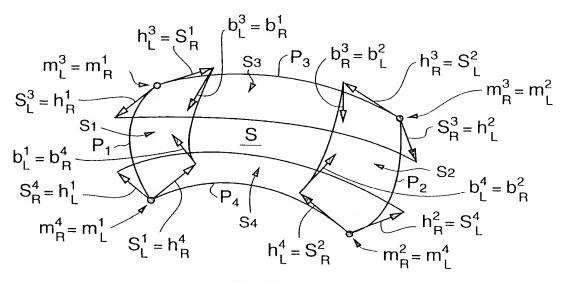


Fig. 40

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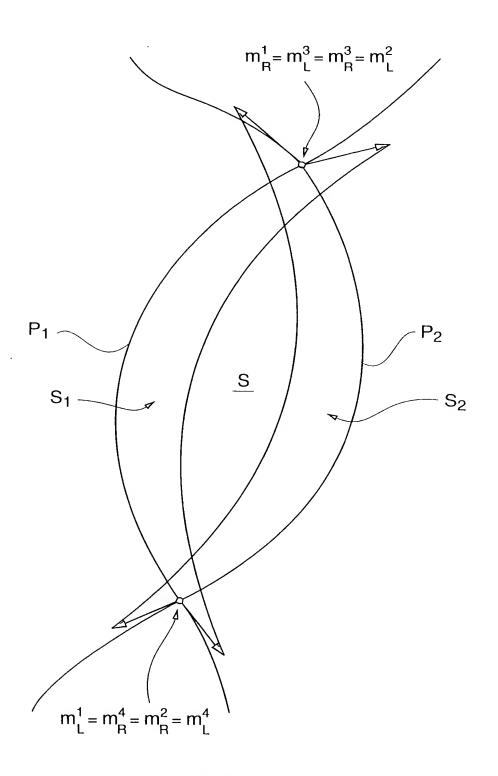


Fig. 41

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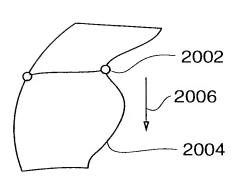


Fig. 42A

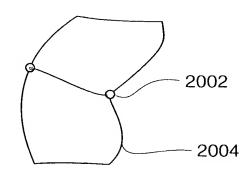
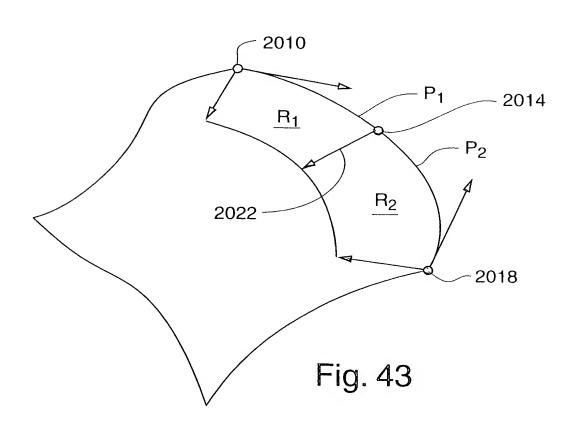


Fig. 42B



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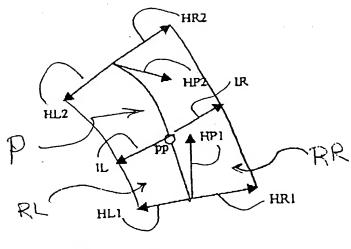


Fig. 44